DECLARATION

In the matter of U.S. Patent Application Ser. No. 10/092,559 in the name of Kazuhiko ARAI

I, Mariko ENDO, of Kyowa Patent and Law Office, 2-3, Marunouchi 3-Chome, Chiyoda-Ku, Tokyo-To, Japan, declare and say:

that I am thoroughly conversant with both the Japanese and English languages; and,

that the attached document represents a true English translation of Japanese Patent Application No. 2001-65171 filed on March 8, 2001.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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M. Endo

Mariko ENDO

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Title of the Invention: PHYSICAL TRAINING MACHINE OPERATION
                         SYSTEM AND METHOD

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Inventor:

    Address: c/o Minami-Urawa Techno-Center, Combi Corporation,
        36-18, Minami-Urawa 3-Chome, Urawa-Shi, Saitama-Ken

    Name: Kazuhiko ARAI

Applicant:

    Identification Number: 391003912
    Address: 6-7, Motoasakusa 2-Chome, Taito-Ku, Tokyo-To
    Name: Combi Corporation

 Agent:

    Identification Number: 100075812
    Patent Attorney
    Name: Kenji YOSHITAKE

 Agent:

    Identification Number: 100091982
    Patent Attorney
    Name: Hiroshi NAGAI

Agent:

    Identification Number: 100096895
    Patent Attorney
    Name: Junpei OKADA

Agent:

    Identification Number: 100105795
    Patent Attorney
    Name: Satoshi NAZUKA

Agent:

    Identification Number: 100106655
    Patent Attorney
    Name: Hideyuki MORI

Agent:

    Identification Number: 100117787
    Patent Attorney
    Name: Hirohito KATSUNUMA

Agent:

    Identification Number: 100104961
    Patent Attorney
    Name: Kiyohiro SUZUKI

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[Title of Invention]   PHYSICAL TRAINING MACHINE OPERATION SYSTEM
AND METHOD

[Claims]

[Claim 1]

A physical training machine operation system comprising:

a physical training machine; and

a server connected to said physical training machine via a network and holding a plurality of different kinds of exercise programs to be used in said physical training machine,

wherein said server selects a specific exercise program from said different kinds of exercise programs in response to a request of a user, so that the selected exercise program is supplied to said physical training machine.

[Claim 2]

The physical training machine operation system according to claim 1, further comprising a registration device that registers a personal information datum of a user,

wherein said server selects a specific exercise program from said different kinds of exercise programs in accordance with the personal information datum registered by said registration device.

[Claim 3]

The physical training machine operation system according to claim 2, further comprising an input device that inputs an identification information datum of a user,

wherein said server extracts a specific personal information datum of a user from personal information data registered by said registration device with reference to the identification information datum the user inputted by said input device, and selects a specific exercise program from said different kinds of exercise programs in accordance with the extracted personal information datum of the user.

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[Claim 4]

The physical training machine operation system according to claim 2 or 3, wherein a personal information datum registered by said registration device is managed on said server.

[Claim 5]

The physical training machine operation system according to any one of claims 2 to 4, wherein a result of use of said physical training machine by a user is managed as a personal information datum of the user.

[Claim 6]

The physical training machine operation system according to any one of claims 1 to 5, wherein said server is connected to said physical training machine via Internet.

[Claim 7]

The physical training machine operation system according to claim 2, wherein said identification information carrier holds an accounting charge information datum together with an identification information datum of a user.

[Claim 8]

A physical training machine operation method comprising the steps of:

selecting a specific exercise program from a plurality of different kinds of exercise programs stored in a server in response to a request of a user that uses a physical training machine; and

supplying the selected exercise program from said server to said physical training machine via a network.

[Claim 9]

The physical training machine operation method according to claim 8, further comprising the step of registering a personal information datum of a user,

wherein, in said step of selection, said specific exercise program is selected from said different kinds of exercise programs in accordance with the registered personal information datum of the user.

[Detailed description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to physical training machines used in health promotion facilities like sports clubs and in homes of individuals, and especially to a physical training machine operation system and a method adapted to present up-to-date exercise programs making use of results of medical science, exercise physiology, and so on, inexpensively and specifically for individual users.

[0002]

[Description of the Related Art]

Along with increased recent anxiety for health and necessity of health promotion activities toward the aging society, more and more people have come to do physical training in sports clubs or other health promotion facilities and/or in homes of individuals using physical training machines such as bicycle-type ergometers, for example. Such training machines, in general, incorporate therein exercise programs like physical fitness measuring programs or physical training programs as fixed software (control programs).

[0003]

Recently, along with rapid developments of medical science, exercise physiology, and so on, there is a continuous change in standard and method of physical strength estimation, and it is desired to provide users with up-to-date exercise programs making use of results of medical science, exercise physiology, and so on. On the other hand, generation of users has come to range from that of younger people to that of elderly people, and it is desired to provide optimum exercise programs meeting the purposes of exercises and physical strength levels of individual users.

[0004]

[Problems to be Solved by the Invention]

With conventional physical training machines, however, users are supplied with exercise programs in form of fixed built-in software. Therefore, to introduce an up-to-date exercise program making use of results of medical science, exercise physiology, and other sciences, it is necessary to buy a new physical training machine, itself, or software,

which invites a considerable expense.

[0005]

Additionally, in order to cope with all users of wide age brackets that are different in purpose of exercises and physical strength level, a plurality of physical training machines as many as different kinds of built-in exercise programs have to be equipped. This results in a large running cost.

[0006]

It is therefore an object of the present invention to provide a physical training machine operation system and its method adapted to present up-to-date exercise programs making use of results of medical science, exercise physiology and other like sciences, inexpensively and specifically for individual users.

[0007]

[Means for solving the Problems]

According to the first aspect of the present invention, there is provided a physical training machine operation system comprising: a physical training machine; and a server connected to the physical training machine via a network and holding a plurality of different kinds of exercise programs to be used in the physical training machine, and wherein the server selects a specific exercise program from the different kinds of exercise programs in response to a request of a user, so that the selected exercise program is supplied to the physical training machine.

[0008]

In the first aspect of the present invention, the physical training machine operation system preferably includes a registration device that registers a personal information datum of a user, and the server preferably selects a specific program from the different kinds of exercise programs in accordance with the personal information datum registered by the registration device. The system preferably includes an input device that inputs an identification information datum of a user, and the server preferably extracts a specific personal information datum of a user from personal information data registered by the registration device with reference to the identification information datum of the user inputted by the input device, and selects a specific exercise program from the different

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kinds of the exercise programs in accordance with the extracted personal information datum of the user. Furthermore, a personal information datum registered by the registration device is preferably managed on the server. A result of use of the physical training machine by a user is preferably managed on the server as a personal information datum of the user. Additionally, the server is preferably connected to the training machine via the Internet. The identification information carrier preferably carries accounting charge information datum together with an identification information datum of a user.

[0009]

According to the second aspect of the present invention, there is provided a physical training machine operation method comprising the steps of selecting a specific exercise program from a plurality of different kinds of exercise programs stored in a server in response to a request of a user that uses a physical training machine; and supplying the selected exercise program from the server to the physical training machine via a network.

[0010]

In the second aspect of the present invention, the method preferably includes the step of registering a personal information datum of a user, and the selection step preferably selects a specific exercise program from the different kinds of exercise programs in accordance with the registered personal information datum of the user.

[0011]

According to the present invention, since any of exercise programs stored in the server is supplied to the training machine in response to a user's request via a network, up-to-date programs making use of results of medical science, exercise physiology or other sciences can be presented inexpensively and specifically for individual users.

[0012]

[Embodiment]

Embodiments of the present invention will now be explained below with reference to the drawings. Figs. 1 through 6 are diagrams illustrating an embodiment of the physical training machine operation system according to the present invention.

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[0013]

First referring to Fig. 1, a network configuration of the training machine operation system according to the embodiment will be explained.

[0014]

As shown in Fig. 1, the training machine operation system according to the embodiment is constructed by connecting various kinds of machines installed in a health promotion facility 10, home 20 and operation business entity's facility 30 altogether via an external network 22 such as Internet.

[0015]

In the health promotion facility 10, a plurality of training machines 12 are installed and connected together via a private network 11 such as LAN (Local Area Network). The private network 11 includes a private server 13 connected thereto for the facility, and the respective training machines 12 connected to the private network 11 are connected to an external network 22 via the private server 13. Further connected to the private network 11 are a personal computer 14, automatic vending machine 15 and information panel 16 installed in a lobby, for example, in the health promotion facility 10.

[0016]

On the other hand, a training machine 21 is installed in the home 20 and connected to the external network 22.

[0017]

In the operation business entity's facility 30, a management server 31 is installed and connected to the external network 22. The management server 31 has different kinds of exercise programs (physical fitness measurement programs, training programs, and so on) to be used in the training machines 12 and 21 to select particular one of the different kinds of exercise programs in response to a user's request and supply the selected exercise program to the training machine 12 and 21 via the external network 22 and the private network 11. The exercise programs to be supplied to the training machines 12 and 21 may be in any form among software for controlling the training machines 12 and 21 (control programs), parameters used by incorporating them into such software (control programs), and control signals for controlling the training

machines 12 and 21.

[0018]

Figs. 2 and 3 are diagrams illustrating examples of training machine 12 and 21 installed in the health promotion facility 10 or individual home 20.

[0019]

As shown in Fig. 2, the training machine 12 and 21 includes a training machine main body 17, and a control unit 40 mounted on an external housing of the training machine main body 17 to control behaviors of the training machine main body 17.

[0020]

The training machine main body 17 shown here is a bicycle type ergometer including a saddle 17a, pedals 17b and a handle 17c like a normal bicycle as shown in Fig. 2 such that a user sitting on the saddle 17a can conduct pedaling exercise by grasping the handle 17c and operating the pedals 17b by feet. The training machine main body 17 can be adjusted in height of the saddle 17a, position of the handle 17b, and so forth, such that any user can take his/her own best posture. An electromagnetic brake-type load-generating device (not shown) is connected to the pedals 17b to apply a constant load to the user.

[0021]

The control unit 40 includes, as shown in Fig. 3, a control box 48 for controlling the load-generating device (not shown) of the training machine main body 17 by using the pulse of a user detected by a pulse detector (not shown), and a control panel 41 connected to the control box 48. The control panel 41 has a touch panel 41a manipulated to input or output various data, a loudspeaker 42 for emitting an alarm sound or music to the user, a microphone 43 introducing a user's voice, or the like, and a CCD camera 44 for taking images of the user's exercising scenes. The control panel 41 includes, as an interface to the exterior, an infrared port 45, a PCMCIA (Personal Computer Memory Card International Association) card slot 46, and an Ethernet connector 47, and it is connected to the private network 11 via the Ethernet connector 47.

[0022]

Since the training machines 12 and 21 shown in Figs. 2 and 3 are connected to

each other via the private network 11 and the external network 22, the system can deliver music, video, games and other contents to users under physical fitness tests or physical training with the training machines 12 and 21, or can provide various kinds of information such as guidance of the facility, current availability of machines, and so on, from the management server 31 or a specific web site on the external network 22 such as Internet via the control panel 41 of the control unit 40. Alternatively, those contents and various kinds of information can be delivered or provided by using the personal computer 14, information panel 16, or the like, connected to the private network 11.

[0023]

Next referring to Fig. 4, a system configuration of the physical training machine operation system shown in Figs. 1 through 3 will be explained.

[0024]

As shown in Fig. 4, the health promotion facility 10 is equipped with a member registration device (registration device) 19a for registering members by registering personal information (ages, genders, physical fitness levels, health conditions, exercise histories, purposes of exercises, and so on) of individual users 50, an ID registration device 19b for registering IDs (identification information) of the users in ID tags (identification information carriers) 51, an ID read-out device (read-out device) 19c for reading IDs of the users 50 from the ID tags 51, a charge registration device 19d for registering accounting charge information of the users 50 in the ID tags 51, and a charge calculator 19e for checkout processing using the accounting charge information registered in the ID tag 51. The member registration device 19a, ID registration device 19b and charge registration device 19d are incorporated in the personal computer 14 such that data can be written in and read out from the ID tag 51 via various interfaces provided in the personal computer 14. The ID read-out device 19c is incorporated in the control unit 40 of the training machine 12 such that data is written in and read out from the ID tag 51 through an infrared port 45, or the like, of the control unit 40. The charge calculator 19e is incorporated in the automatic vending machine 15 such that data can be written in and read out from the ID tag 51 through various interfaces provided in the automatic vending machine 15. ID tags 51 are held on locker keys carried by

individual users within the health promotion facility 10, watches or pedometers daily used by the users.

[0025]

The private server 13 is connected to the member registration device 19a, ID registration device 19b, ID read-out device 19c and charge registration device 19d via the private network 11 to manage personal information of the users 50 registered by the member registration device 19a. Personal information of the users 50 managed by the private server 13 include results of the use of the training machine 12 (results of physical fitness measurement, physical training, and so on) of the users 50 in addition to their ages, genders, physical fitness levels, health conditions, exercise histories, purposes of the exercises, and so on, of the users 50. Further, based on an ID of the user 50 read out from the private server 13 by the ID read-out device 19c, personal information of a specific user is extracted from personal information of the users registered by the member registration device 19a, and an exercise program to be supplied to the training device 12 or 21 is selected in accordance with the extracted personal information of the specific user.

[0026]

The private server 13 is connected to the management server 31 in the operation business entity's facility 30 under unitary management by the operation business entity via the external network 22 such as Internet. The management server 31 includes a program server 31a that holds different kinds of exercise programs such that exercise programs stored in the private server 13 in the health promotion facility 10 and exercise programs stored in the training machine 12 in the home 20 can be renewed any time. Additionally, the management server 31 includes a customers management server 31b for managing personal information of users 50 as customers data base (personal cards) to enable exchange of management information between the private server 13 in the health promotion facility 10 and the training machine 21 in the home 20 any time.

[0027]

Next explained are operations of the instant embodiment having the above-explained configuration.

[0028]

First referring to Fig. 5, procedures of member registration processing and training machine usage processing in the heal promotion facility 10 of the physical training operation system shown in Fig. 4 will be explained.

[0029]

Users 50 are registered as members by registering their personal information (ages, genders, physical fitness levels, heal conditions, exercise histories, purposes of exercises, and so on) by means of the member registration device 19a in the health promotion facility 10 (step 101). Thereby, personal information of the users 50 is stored as management information in both the private server 13 and the customers management server 31b of the operation business entity's facility 30 (step 102).

[0030]

After that, IDs of the users 50 are issued from the customers management server 31b in the operation business entity's facility 30 (step 103), and they are written on the ID tags 51 (step 104).

[0031]

The ID tags 51 with IDs of the users 50 are delivered to the respective users 50 (step 105).

[0032]

After that, each user 50 having received such an ID tag 51 inputs his/her use request to the training machine 12 through the control unit 40 of the training machine 12 (step 201). Simultaneously, the user 50 connects his/her ID tag 51 and the control unit 40 of the training machine 12 via a non-contact interface such as infrared ray, electric wave, or the like. As a result, ID of the user 50 is read from the ID tag 51 by the ID read-out device 19c (step 202), and that ID of the user 50 is input to the training machine 12 (step 203).

[0033]

Then this ID is queried and verified between the training machine 12 and the private server 13 (steps 204 and 205), and if the user 50 is an authorized user, the use of the machine is approved (step 206).

[0034]

After that, once the user 50 starts the use of the training machine 12 (step 207), personal information of the user 50 is read out from the private server 13 (step 208), and a specific exercise program is read out from different kinds of exercise programs in accordance with the personal information of the user 50 read out (step 209). As a result, an optimum exercise program meeting his/her purpose of the exercise, physical fitness level, and so forth, is specifically given to the user 50, and the user 50 can do a physical fitness measurement test or training according to the exercise program given in this manner (step 210). Exercise programs stored in the private server 13 in the health promotion facility 10 are renewed any time to reflect exercise programs stored in the program server 31a in the operation business entity's facility 30 such that the private server 13 in the health promotion facility 10 always stores up-to-date exercise programs.

[0035]

The result of the use of the training machine 12 by the user 50 is stored as personal information (management information) of the user 50 in the private server 13 (step 211). Management information is exchanged any time between the private server 13 in the health promotion facility 10 and the customers management server 31b in the operation business entity's facility 30.

[0036]

Next referring to Fig. 5, procedures of training machine usage processing in the home 20 in the physical training machine operation system shown in Fig. 4 will be explained.

[0037]

The user 50 inputs his/her personal information (age, gender, physical fitness level, health condition, exercise history, purpose of the exercise, and so on) and his/her ID to the training machine 21 in the home 20 (step 301). As a result, personal information of the user 50 is stored as management information in the training machine 21. The procedure of inputting personal information of the user 50 may be omitted if it is already stored in the management server 31 (customers management server 31b) in the operation business entity's facility 30 and in the training machine 21 in the home 20.

[0038]

After that, once the user 50 starts the use of the training machine 21, a specific exercise program is read out from different kinds of exercise programs in accordance with the personal information of the user 50 stored in the training machine 21. Thus an optimum exercise program meeting with the purpose of the exercise, the physical fitness level, and so forth, of the user 50 is specifically given, and the user 50 can do a physical measurement test or training according to the exercise program given in this manner (step 302). Exercise programs stored in the training machine 21 in the home 20 are renewed any time to reflect exercise programs stored in the program server 31a in the operation business entity's facility 30 such that the training machine 21 in the home 20 always stores up-to-date exercise programs.

[0039]

The result of the use of the training machine 21 by the user 50 is stored as personal information (management information) of the user 50 in the training machine 21. Management information is exchanged any time between the training machine 21 in the home 20 and the customers management server 31b in the operation business entity's facility 30.

[0040]

Next referring to Fig. 6, procedures of account processing in the health promotion facility 10 in the physical training machine operation system shown in Fig. 4 will be explained.

[0041]

The user 50 deposits beforehand a sum for account that will be necessary upon purchasing commodities or using pay-programs (services) through the charge registration device 19d in the health promotion facility 10. Simultaneously, the user 50 connects his/her ID tag 51 and to the charge calculator 19e via a non-contact interface such as infrared ray, electric wave, or the like. As a result, ID of the user 50 is read from the ID tag 51 by the charge calculator 19e (step 402), and this ID of the user 50 is queried and verified between the charge calculator and the private server 13 (and the charge is written) (step 403). After the verification of ID (step 404), the deposited sum for

account is written as charge information in the ID tag 51 (step 405).

[0042]

After that, when the user 50 purchases a commodity (such as canned juice) through the automatic vending machine 15, for example, the user 50 connects his/her ID tag 51 to the charge calculator 19e incorporated in the automatic vending machine 15 via a non-contact interface such as infrared ray, electric wave, or the like. As a result, ID of the user 50 is read out from his/her tag 51 (step 406), and this ID is queried and verified between the charge calculator 19e and the private server 13 (steps 407 and 408). After the verification of ID, the balance of the account is read out from the ID tag 51 (step 409), and after account processing by the private server 13 (step 410), the balance after the account processing is written in the ID tag 51 (step 411).

[0043]

After that, a commodity (such as canned juice) is delivered to the user 50 from the automatic vending machine 15 (step 412).

[0044]

As explained above, according to the embodiment of the present invention, since exercise programs stored in the management server 31 in the operation business entity's facility 30 or in the private server 13 in the health promotion facility 10 are supplied to training machines 12 and 21 connected via an external network 20, for example, upon requests from users, it is possible to inexpensively provide up-to-date exercise programs making use of results of medical science, exercise physiology and other sciences, specifically for individual users 50. Thus, each user 50 can do a physical fitness measurement test or physical training according to such an up-to-date exercise program at a reasonable charge for the content of his/her actual use without being compelled to bear a high expense for purchasing a new training machine 12 or 21 itself or new software. In addition, all users 50 over a wide range of generations, different in purposes of exercises, physical fitness levels, and other factors, can be specifically coped with. Since the exercise programs stored in the private server 13 in the health promotion facility 10 are renewed any time to reflect exercise programs stored in the program server 31a in the operation business entity's facility 30, it is sufficient that the operation business entity, for example,

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renew the exercise programs in the program server 31a of the operation business entity's facility 30, and it is ensured that such renewed exercise programs are automatically supplied to the training machines 12 and 21 installed in the health promotion facility 10 or in the home 20.

[0045]

Moreover, according to the embodiment of the present invention, since personal information of users 50 is registered in the management server 31 of the operation business entity's facility 30 or in the private server 13 of the health promotion facility 10 such that a specific exercise program is selected from different kinds of exercise programs in accordance with personal information of a particular user 50 registered, it is possible to readily provide each user without specialized knowledge with an optimum exercise program such that the user 50 can effectively conduct a physical fitness measurement test or training. Furthermore, personal information of users 50 registered beforehand can be used to automatically set the upper-limit load during the use of the training machine 12 or 21, or to limit the use of the training machine 12 or 21 itself, users 50 can safely practice the physical fitness measurement test or training.

[0046]

Additionally, according to the embodiment, since personal information of users 50 is registered in the management server 31 of the operation business entity's facility 30, exercise programs and personal information of an individual user 50 can be shared in the health promotion facility 10 and the home 20, it is not necessary to input personal information of users 50 for each user 50 or each training machine 12 or 21, and rather, each user 50 can do physical fitness measurement tests or physical training similar to those of the health promotion facility 10 in his/her home 20 or in another health promotion facility. Further, since personal information of users 50 (including results of exercises with the training machines 12 or 21) is registered in the management server 31 of the operation business entity's facility 30, whole aspects of health promotion activities of the users 50 can be held under unitary control, and can be effectively used as reference data for exercise prescription by trainers, medical practitioners, or the like, in health promotion facilities, medical organizations, or the like. If an ID read-out

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device is added to a personal computer, for example, set in a home, workplace or any other place, and connectable to Internet, it is possible to make reference to data including results of exercises with training machines 12 or 21 from anywhere.

[0047]

Furthermore, according to the embodiment of the present invention, since each ID tag 51 for holding ID of each user 50 is configured to hold accounting charge information, the user can deposit a sum of expected charge beforehand to his/her ID tag 51 to enable account processing without carrying cash for purchasing commodities or using pay programs (services) in the health promotion facility 10. Additionally, since each ID tag 51 is usable for entrance/exit management to and from the health promotion facility 10 as well, all of entrance/exit management, uses of machines, purchasing of commodities, uses of pay programs (services), and others, can be managed only with ID tags 51, thereby to contribute to laborsaving in operation of the health promotion facility 10 and to permit users 50 to dedicate themselves to health promotion activities that are true purposes of the users 50.

[0048]

In the embodiment explained above, an example was taken for explanation as the charge calculator 19e being incorporated in the automatic vending machine 15; however, not limited to this, the charge calculator 19e may be incorporated in the control unit 40 of the training machine 12 or 21. As identification information carriers, the foregoing embodiment employs the ID tags 51 attached to locker keys, or the like, which the users 50 carry on themselves; however, instead of them, any desired means such as IC cards may be used.

[0049]

[Effect of invention]

As described above, according to the present invention, up-to-date programs making use of results of medical science, exercise physiology or other sciences can be presented inexpensively and specifically for individual users.

[Brief Descriptions of the Drawings]

[Fig. 1]

A diagram that shows a network configuration of a training machine operation system according to an embodiment of the present invention.

[Fig. 2]

A perspective view of a training machine used in the training machine operation system shown in Fig. 1.

[Fig.3]

A diagram that shows the detail of a control panel of the training machine shown in Fig. 2.

[Fig. 4]

A block diagram that shows a system configuration of the training machine operation system shown in Fig. 1.

[Fig. 5]

A diagram for explaining procedures of membership registration processing and training machine usage processing with the training machine operation system shown in Fig. 4; and

[Fig. 6]

A diagram for explaining procedures of accounting processing with the training machine operation system shown in Fig. 4.

[Explanation of numerals]

10   Health promotion facility

11   Private network

12   Training machines

13   Private server

14   Personal computer

15   Automatic vending machine

16   Information panel

17   Training machine main body

19a   Member registration device

19b   ID registration device

19c   ID read-out device

19d   Charge registration device

19e   Charge calculator

20   Home

21   Training machine

30   Operation business entity's facility

31   Management server

31a   Program server

31b   Customers management server

40   Control unit

41   Control panel

41a   Touch panel

42   Loudspeaker

43   Microphone

44   CCD camera

45   Infrared port

46   PCMCIA card slot

47   Ethernet connector

48   Control box

50   Individual users

51   ID tags (identification information carriers)
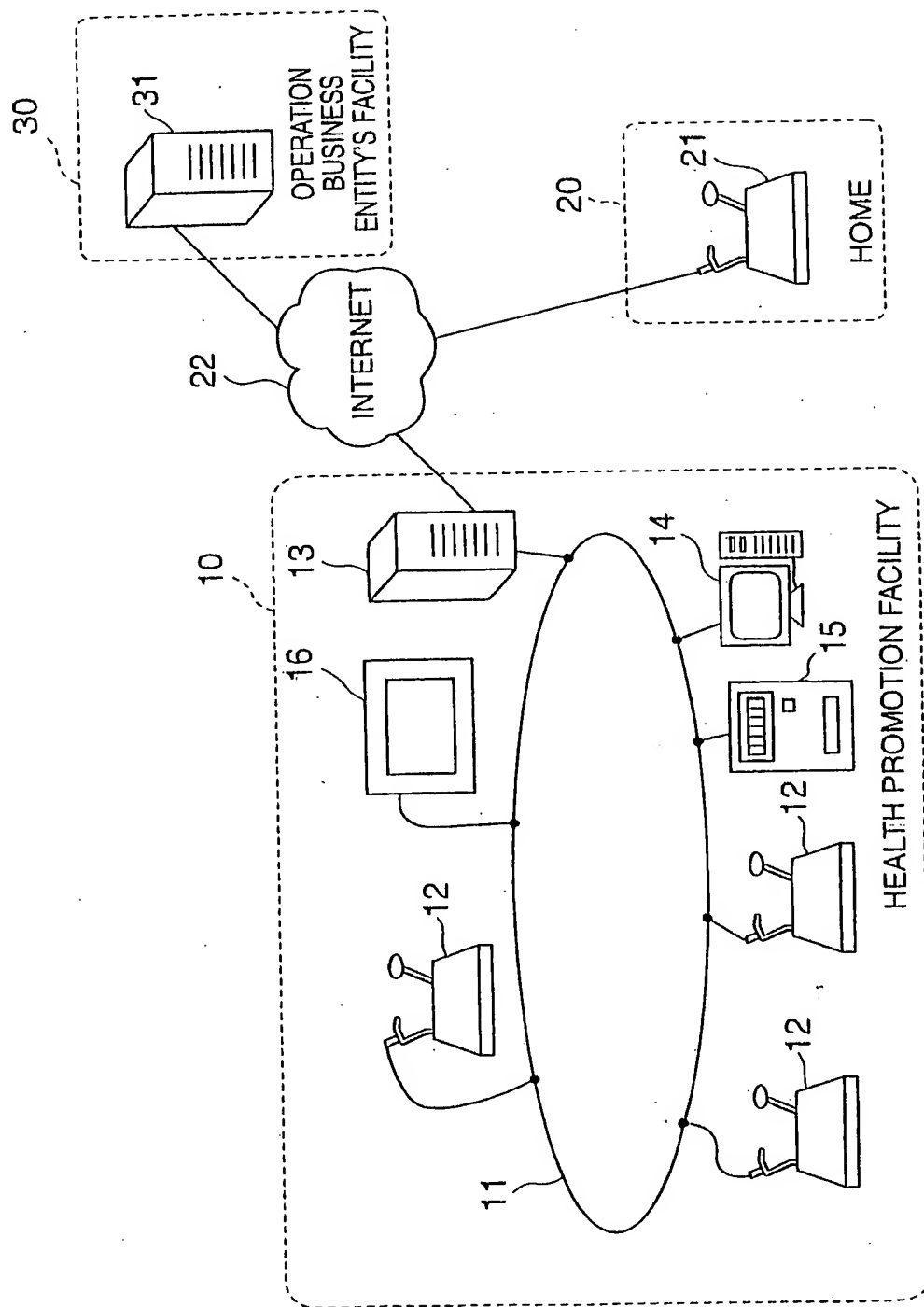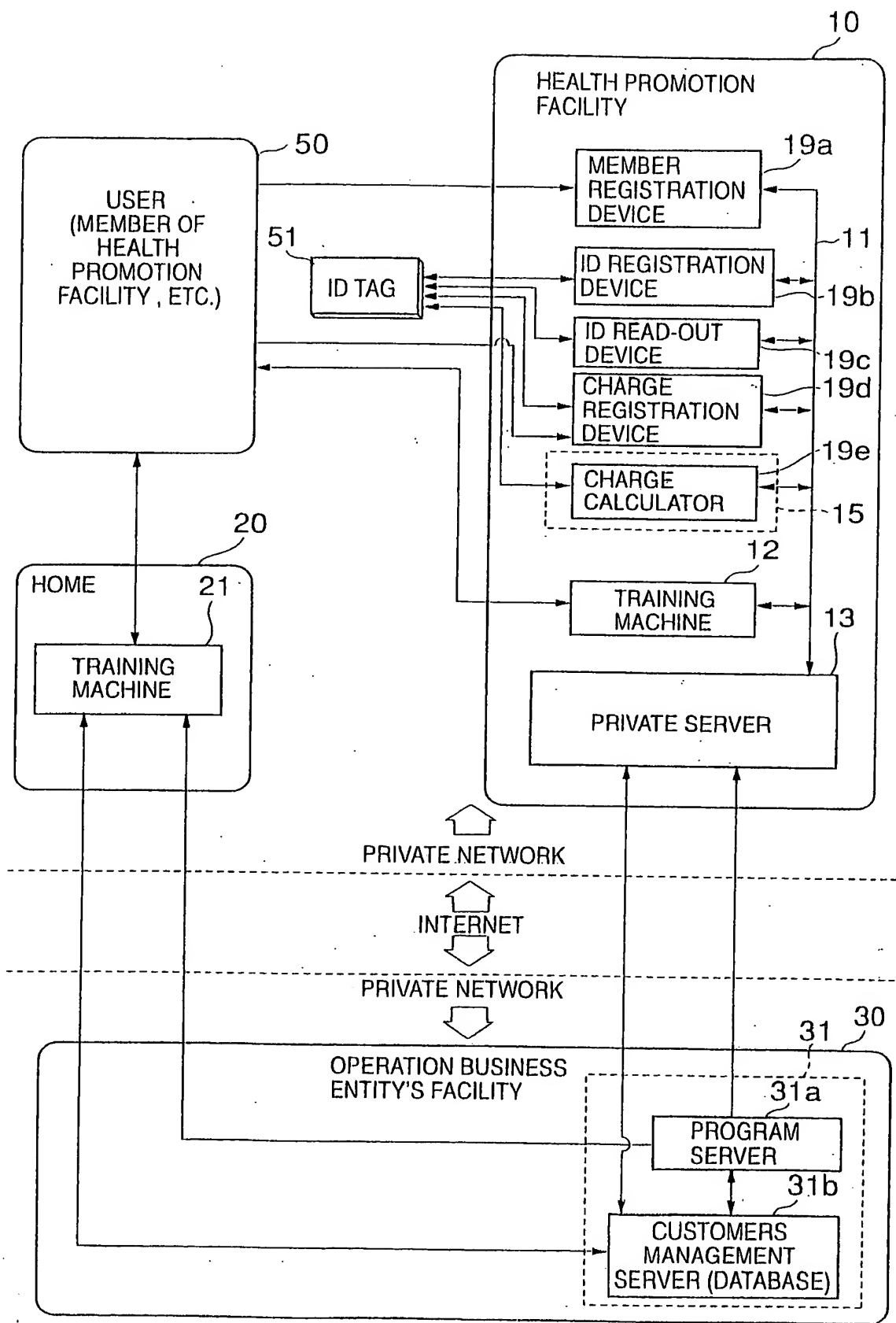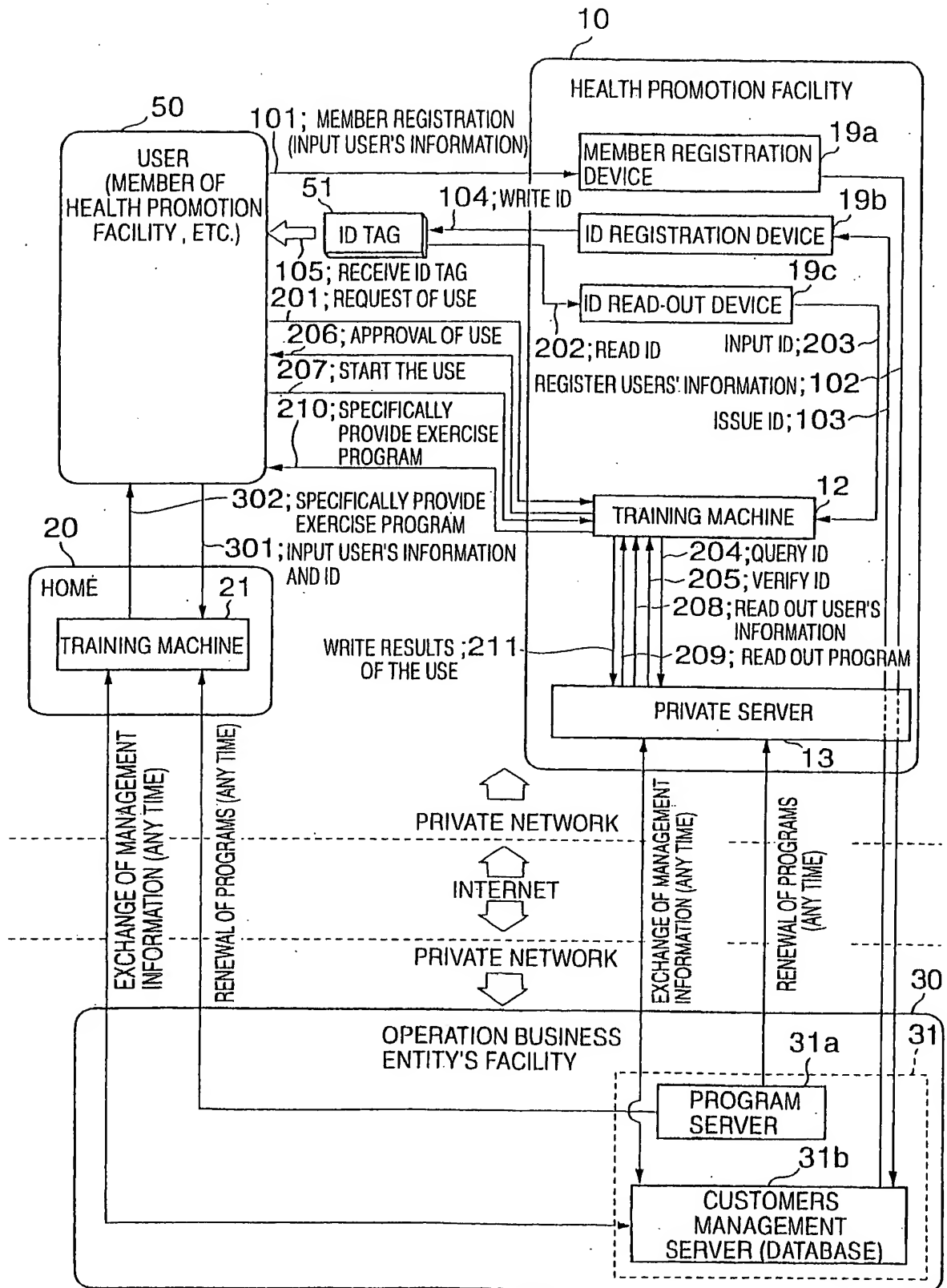
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OPERATION
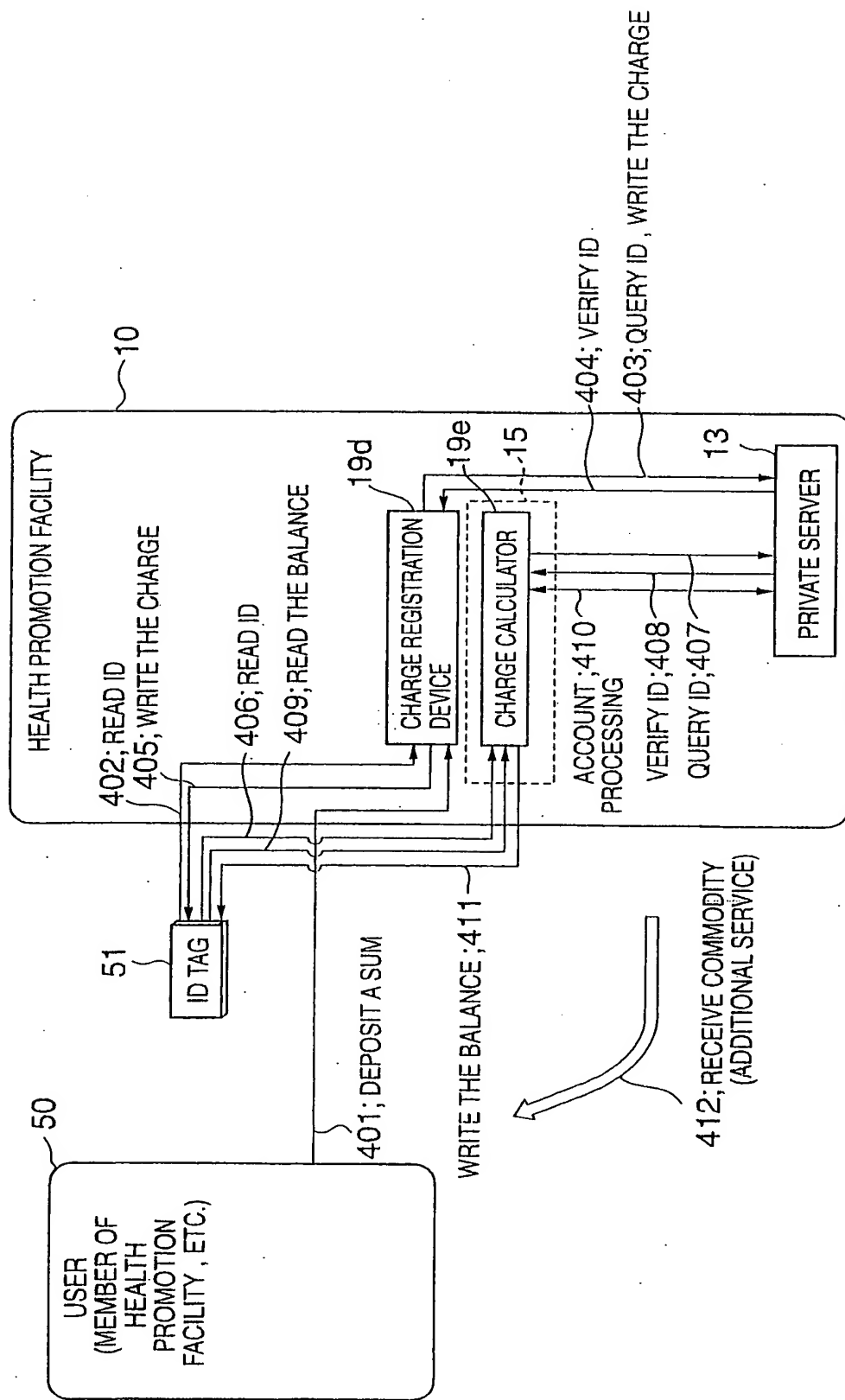BUSINESS
ENTITY'S FACILITY

21

HOME

20

22

INTERNET

10

13

16

14

15

12

12

12

11

HEALTH PROMOTION FACILITY

Fig. 1

Fig. 2

Fig. 3

Fig. 4

10

HEALTH PROMOTION FACILITY

50

USER
(MEMBER OF
HEALTH PROMOTION
FACILITY, ETC.)

101; MEMBER REGISTRATION
(INPUT USER'S INFORMATION)

MEMBER REGISTRATION
DEVICE   19a

51   104; WRITE ID

ID TAG   ID REGISTRATION DEVICE   19b

105; RECEIVE ID TAG   ID READ-OUT DEVICE   19c
201; REQUEST OF USE

206; APPROVAL OF USE   202; READ ID   INPUT ID; 203

207; START THE USE   REGISTER USERS' INFORMATION; 102

210; SPECIFICALLY   ISSUE ID; 103
PROVIDE EXERCISE
PROGRAM

302; SPECIFICALLY PROVIDE   TRAINING MACHINE   12
EXERCISE PROGRAM

20   301; INPUT USER'S INFORMATION   204; QUERY ID
          AND ID   205; VERIFY ID

HOME   208; READ OUT USER'S
21   INFORMATION

TRAINING MACHINE   WRITE RESULTS; 211   209; READ OUT PROGRAM
                    OF THE USE

                    PRIVATE SERVER

                                            13

EXCHANGE OF MANAGEMENT INFORMATION (ANY TIME)
RENEWAL OF PROGRAMS (ANY TIME)

PRIVATE NETWORK

INTERNET

PRIVATE NETWORK

EXCHANGE OF MANAGEMENT INFORMATION (ANY TIME)
RENEWAL OF PROGRAMS (ANY TIME)

OPERATION BUSINESS   30
ENTITY'S FACILITY

                            31a   31

                    PROGRAM
                    SERVER

                            31b

                    CUSTOMERS
                    MANAGEMENT
                    SERVER (DATABASE)

Fig. 5

HEALTH PROMOTION FACILITY — 10

USER
(MEMBER OF
HEALTH
PROMOTION
FACILITY , ETC.) — 50

51 — ID TAG

402; READ ID
405; WRITE THE CHARGE

406; READ ID

409; READ THE BALANCE

CHARGE REGISTRATION DEVICE — 19d

CHARGE CALCULATOR — 19e

15

404; VERIFY ID

403; QUERY ID , WRITE THE CHARGE

ACCOUNT ;410
PROCESSING

VERIFY ID;408

QUERY ID;407

PRIVATE SERVER — 13

401; DEPOSIT A SUM

WRITE THE BALANCE ;411

412; RECEIVE COMMODITY
(ADDITIONAL SERVICE)

Fig. 6

[Document Type]   ABSTRACT OF THE DISCLOSURE

[Abstract]

[Object]

To provide a physical training machine operation system to present up-to-date exercise programs making use of results of medical science, exercise physiology, and so on, inexpensively and specifically for individual users.

[Means for Solving the Problems]

A health promotion facility (10) is equipped with a plurality of training machines (12) connected to each other via a private network (11).   Each training machine (12) is connected to an external network (22) via a private server (13).   In a home (20), a training machine (21) connected to the external network (22) is installed, and a management server (31) connected to the external network (22) is installed in an operation business entity's facility (30).   The management server (31) holds different kinds of exercise programs to be used in the training machines (12, 21) to select a specific exercise program from the different kinds of exercise programs in response to a user's request and supply the selected exercise program to the training machine (12, 21) through the external network (22) and the private network (11).

[Selected Figure]

Fig. 1